

Return on Investment (ROI) Program Funding Application

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FINAL AUDIT REQUIRED: The Enterprise Quality Assurance Office of the Information Technology Department is required to perform post implementation outcome audits for all Pooled Technology funded projects and may perform audits on other projects.

This is a Pooled Technology Fund Request. Amount of funding requested: \$936,980.00

Section I: Proposal

Date: 7/31/2003
Agency Name: DHS - Cherokee
Project Name: Campus Area Network Upgrade
Agency Manager: Allen Stange
Agency Manager Phone Number / E-Mail: (712)225-6936 / astange@dhs.state.ia.us
Executive Sponsor (Agency Director or Designee): Steve Mosena

D. Statutory or Other Requirements

Is this project or expenditure necessary for compliance with a Federal law, rule, or order?

☐ YES (If "Yes", cite the specific Federal law, rule or order, with a short explanation of how this project is impacted by it.)

Explanation:

Is this project or expenditure required by state law, rule or order?

☐ YES (If "YES", cite the specific state law, rule or order, with a short explanation of how this project is impacted by it.)

Explanation:

Does this project or expenditure meet a health, safety or security requirement?

☒ YES (If "YES", explain.)

Explanation:

The Cherokee MHI, Clarinda MHI, Eldora - State Training School, Glenwood Resource Center, Independence MHI, Mt. Pleasant M.H.I., Toledo - Iowa Juvenile Home and Woodward Resource Center(WRC) are responsible for the medical records, admission stats, psychological test results, court information, educational records, heating and cooling systems, work order systems, dictation systems, security and pharmaceutical records of the customers we serve 24 x7. These records and other information regarding the quality of life of our customers must be available to the care givers. This communication and health information is available through our network. The network equipment at these facilities is currently 6 yrs old and is at end of life. This means that parts or replacements for this equipment are not available or not compatible with existing equipment due to age and advancement in technology switching equipment. Loss of the network creates a break in communication and the ability to retrieve important data. Campus Area Networks at the state institutions connect over 119 buildings spread over 1041 acres. Security is an issue

with aging switching equipment. It creates a risk to the network. Aging and failing equipment can create vulnerabilities to the institutional networks. The networks contains confidential medical information about the citizens we serve. Securing confidential information is a HIPAA federal mandate. We also serve approximately 2095 staff with approximately 795 desktop computers, servers and other equipment necessary to conduct the business of these institutions. The network equipment at the facilities is reaching the end of their life, some being 5-6 years old. Loss of the network creates a break in communication and the ability to retrieve important data. We must insure health data is secure (according to HIPAA) and available to the caregivers within the facility at all times (staff and patient safety). The current network switching equipment are prone to failure, are not secure and are no longer being manufactured. Currently maintenance agreements on this equipment/support are scheduled to cease within FY04 and are costing approximately \$120,299.00 in FY02 per year. Currently our EMS (Energy Management System) regulating heating, cooling and water (bathing temperature) are running on our fiber system. A switch upgrade would allow for a faster and more accurate reading of temperatures. Patient information such as medical records, lab, pharmacy charges and nursing/physician notes are currently running on servers and access to them would be faster for end users. Newer switching equipment supports the newest encryption capabilities to enhance security of client data across the network.

Is this project or expenditure necessary for compliance with an enterprise technology standard?

☒ YES (If "YES", cite the specific standard.)

Explanation:

Below is a quote from the enterprise security policy section B: "Information security encompasses many disciplines, including computer security, network security, communications security, and physical security. For Iowa state government systems, security will follow the concept of information assurance. The overall goal of information assurance is to protect and defend information and information systems. Disruptions in today's environment are not preventable 100% of the time; therefore, the state must be prepared to respond appropriately and recover to ensure the confidentiality, integrity, and availability of the information and information systems it is entrusted with. Information assurance entails information protection, event detection, restoration of information and services, and appropriate response. We must protect information and information resources from intentional, unintentional, structural, and environmental threats; detect threats and attacks; restore capabilities in an efficient and prioritized manner; and respond appropriately with an integrated, coordinated, and focused effort to cope with, reduce, or eliminate the effects of attacks or intrusions." State of Iowa Information Technology security plan. Avoidance of communication network central point of failure. Homeland security standards. Enterprise Technology Standards require that fiber between buildings be "home run" and not "daisy chained". "Home Run" refers to the fiber going from a central location directly to each building, thus having a dedicated fiber to that one building or location. "Daisy chain" is when the fiber goes from a central location to the closest building and then from that building to the next building and etc. For example when four buildings are "daisy chained" on the same fiber it limits the network resources of each building to 100 Megabits total for all buildings on the chain.

[This section to be scored by application evaluator.]

Evaluation (20 Points Maximum)

If the answer to these criteria is "no," the point value is zero (0). Depending upon how directly a qualifying project or expenditure may relate to a particular requirement (federal mandate, state mandate, health-safety-security issue, or compliance with an enterprise technology standard), or satisfies more than one requirement (e.g. it is mandated by state and federal law and fulfills a health and safety mandate), 1-20 points awarded.

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E. Impact on Iowa's Citizens

a. Project Participants

List the project participants (i.e. single agency, multiple agencies, State government enterprise, citizens, associations, or businesses, other levels of government, etc.) and provide commentary concerning the

nature of participant involvement. Be sure to specify who and how many **direct** users the system will impact. Also specify whether the system will be of use to other interested parties: who they may be, how many people are estimated, and how they will use the system.

Response:

Cherokee Mental Health Institute - Cherokee Mental Health Institute is a 70-bed mental health center providing psychiatric diagnosis, medication management, and individual therapy and family therapy as well as outpatient services. The Institute is licensed and accredited as a provider of acute psychiatric care and active psychiatric rehabilitation. Respite care services are provided for short-term environmental placement of psychiatric patients. Our psychiatric rehabilitation program provides active counseling and skill training to help patients learn community living skills. Along with the psychiatric rehabilitation program for adults, a kindergarten through 12th grade school is provided for children and adolescent patients. Clarinda Mental Health Institute - Eldora - State Training School - Provides a continuum of supervision and rehabilitation programs, which meets the needs of the adjudicated delinquent males in a manner consistent with public safety. These services and programs will individualize treatment and control the offender for his own benefit and the protection of society. Glenwood Resource Center - We improve the quality of life for individuals with disabilities by providing comprehensive services in partnership with customers to accomplish individualized team developed goals. Independence Mental Health Institute - Provides quality inpatient psychiatric care for the mentally ill adult citizens of northeast Iowa (and other designated catchment areas, as appropriate) and mentally ill children and adolescents from eastern Iowa. A kindergarten through 12th grade school is provided for children and adolescent patients. Toledo - Iowa Juvenile Home - The Iowa Juvenile Home provides effective intervention for the most troubled youth in the State of Iowa. We act as a positive change agent, providing therapeutic programming, to assist youth in successfully moving to a less structured environment. Woodward Resource Center - A campus that serves citizens of Iowa with Mental Retardation and their families. WRC customers are both on campus and off. * Centralized Distribution Center (CDC) The CDC warehouse stores food that is purchased and distributed to all Department of Human Services (DHS) facilities and Department of Correction (DOC). * DHS central office and other governing agencies that require reports in a timely manner. Other governmental agencies that require reports and services from us.

b. Service Improvements

Summarize the extent to which the project or expenditure improves service to Iowa citizens or within State government. Included would be such items as improving the quality of life, reducing the government hassle factor, providing enhanced services, improving work processes, etc.

Response:

Deliver the State of Art networking technology at 100 MB speed for desktops and at 1 GB speed between switches. Upgrading switches to 100/1000 MB will provide more bandwidth would facilitate more efficient and effective information transfer and retrievals and also permits live video for facility security cameras. This will help us provide better services to clients and client families as well as provide better programmatic oversight. Staff complete training at the desktop using video and other training materials. We presently have the hardware and software to complete this but the lack of network resources prevent it. Network devices are funneled through a 100 megabit backbone and 10 MB to the desktop on the Campus Area Network. This causes continual "Not Responding" errors when accessing software or transferring files. * The quality of life for the Iowa citizens we serve. The campus area networks are relied upon and uses technology to its fullest. Having communication and information available through out these campus allows caregivers, medical, and professional staff a means to share information instantly. Being able to enter data at any location whether it be at a work site, lab, pharmacy, doctors office, classroom, ward (living unit) or vocational site captures real time data. Having a solid and secure network and using technology allows for more data driven decisions. This adds to the quality of life of our customers. * Parents and Guardians: We have just scrapped the surface of electronic communications. Each facility is looking at the options and have implemented a few to allow parents, guardians and the citizens that reside on our campus to communicate electronically. * Federal, state survey teams, DHS central office, and other state agencies: We live in a world where information is always needed yesterday. It has been suggested by survey teams that we need to use our computer system to collect more data. Using our computer system has allowed us to electronically send reports requested by DHS central office.

The network allows several agencies to share one file. This is a valuable tool that needs to be continued. * The speed of our network would improve: Save staff time for data retrieval. * Using single mode fiber and switching the media to switched and not shared media (Hubs) would also allow for better quality video training at the desk top: Providing this option would improve attendance for class due to staff shortages. If the opportunity is there to take training without leaving your work site not only saves time but dollars. Being a 24 x 7 facility, its challenging scheduling staff for training without incurring overtime.

c. Citizen Impact

Summarize how the project leads to a more informed citizenry, facilitates accountability, and encourages participatory democracy. If this is an extension of another project, what has been the adopted rate of Iowa's citizens or government employees with the preceding project?

Response:

The citizens we serve are impacted the most. Security of information is important for the privacy of records(HIPAA). The Campus Area Networks contain patient medical records information, energy management systems, security systems, food and nutrition, financial information, pharmacy records, training systems and records, personnel information, educational records, scheduling programs and physicaian services as well as a host of other applications needed to conduct everyday business operations. * State and federal survey teams: Having a solid and secure network allows us to meet reporting requirements for other state and federal agencies. Examples are Department of Inspections and Appeals (DIA), Center of Medicare & Medicaid Services (CMS) and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). We are also required to meet standards set by the Occupational Safety and Helath Administration (OSHA). These regulatory agencies continue to expand their requirments thereby increasing the level of communication and reporting demands. As we meet these accreditation standards, we demonstrate we provide a high level of care for our patients.* Taxpayers: To be awarded the pooled technology money will allow us to take advantage of volume purchases. It will allow for this to be a managed project which will eliminate downtime for tranfer to new switches. If we do not receive this money we will have to figure out a way to piece meal this project. Being proactive is much more cost effective then being reactive which is a benefit to the taxpayers. * Parents and guardians of the citizens we serve. All facilities pride themselves in delivering top services to the individual clients and the loved ones of those they serve. To continue to provide this level of service it requires we have a network in place that allows communication and data entry and collection. This allows us to maintain and improve the level of care at each and every facility.* The DHS facilities and the DOC prisons are customers of the CDC Warehouse. If we do not have a solid network to run our computer systems, CDC staff will not be able to access the inventory system. In turn they will have to physically count which takes time. This could cause a delay in delivery, which could cause a delay in payment. Not having an inventory system operating could create costly buying decisions. Buying electronically allows more flexibility for "just-in-time" purchasing. The network also gives a line of communication to their customers.

d. Public Health and/or Safety

Explain requirements or impact on the health and safety of the public.

Response:

[This section to be scored by application evaluator.]

Evaluation (10 Points Maximum)

- Minimally improves Customer Service (0-3 points).
- Moderately improves Customer Service (4-6 points).
- Significantly improves Customer Service (7-10 points).

[This section to be scored by application evaluator.]

Evaluation (15 Points Maximum)

- Minimally directly impacts Iowa citizens (0-5 points).

- Moderately directly impacts Iowa citizens (6-10 points).
- Significantly directly impacts Iowa citizens (11-15 points).

F. Process Reengineering

Provide a pre-project or pre-expenditure (before implementation) description of the impacted system or process. Be sure to include the procedures used to administer the impacted system or process and how citizens interact with the current system.

Response:

Each Campus (averaging around 135 acres, approximately 119 buildings and approximately 2095 employees) has a fiber backbone that includes switch media and shared media. All of the switch media is at end of life and parts are no longer available. Cisco switches currently provide 100 Megabits between switches and 10 Megabits to the desktop. Currently for maintenance all facilities are paying yearly maintenance costs for switches. During the FY02 the total costs to the institutions was \$120,299.00 for CISCO maintenance. I did not have this years total amount but I am certain that it higher as the yearly cost has risen every year. With this project this amount of money would be saved yearly.

Provide a post-project or post-expenditure (after implementation) description of the impacted system or process. Be sure to include the procedures used to administer the impacted system or process and how citizens will interact with the proposed system. In particular, note if the project or expenditure makes use of information technology in reengineering traditional government processes.

Response:

Upgrading the network equipments to uplink 1000 MB from switch to switch and 100 MB at desktops are a must for the services we provide. We will be able to give the staff the tools necessary to complete their job duties more efficiently. It is critical to service delivery that our networks must continue to be reliable in the 24 X 7. It will improve the way we collect data and give us the data we need to make solid decisions about the citizens we serve. A savings of over \$120,299.00 yearly Cisco maintenance switch fees would be eliminated. Running a "home run" single mode fiber between our two main closets will allow much faster and more reliable gigabit data transmission speed to our major buildings. We would install Cisco switches in every wiring closet. This will upgrade our networks to all switched media providing true 1000 MB throughout our campus and to all buildings. This not only improves the speed of our networks, it allows video desk top capability and increases our network security. This will allow the facilities to continue to grow in the use of technology. Many have installed a medical record software packages and other applications used campus wide which maximizes the use of our nework. This eliminates hand written processes, continuity in data collection and helps in meeting the request of federal and state survey teams. In particular this will improve the way we collect data and gives us the data we need to make solid decision about the citizens we serve.

[This section to be scored by application evaluator.]

Evaluation (10 Points Maximum)

- Minimal use of information technology to reengineer government processes (0-3 points).
- Moderate use of information technology to reengineer government processes (4-6 points).
- Significant use of information technology to reengineer government processes (7-10).

[This section to be scored by application evaluator.]

Evaluation (5 Points Maximum)

- The timeline contains several problem areas (0-2 points)
- The timeline seems reasonable with few problem areas (3-4 points)

- The timeline seems reasonable with no problem areas (5)

H. Funding Requirements

On a fiscal year basis, enter the estimated cost by funding source: Be sure to include developmental costs and ongoing costs, such as those for hosting the site, maintenance, upgrades, ...

	FY05		FY06		FY07	
	Cost(\$)	% Total Cost	Cost (\$)	% Total Cost	Cost (\$)	% Total Cost
State General Fund	\$0	0%	\$0	0%	\$0	0%
Pooled Tech. Fund /IowAccess Fund	\$936,980	100%	\$0	0%	\$0	0%
Federal Funds	\$0	0%	\$0	0%	\$0	0%
Local Gov. Funds	\$0	0%	\$0	0%	\$0	0%
Grant or Private Funds	\$0	0%	\$0	0%	\$0	0%
Other Funds (Specify)	\$0	0%	\$0	0%	\$0	0%
Total Project Cost	\$936,980	100%	\$0	100%	\$0	100%
Non-Pooled Tech. Total	\$0	0%	\$0	0%	\$0	0%

[This section to be scored by application evaluator.]

Evaluation (10 Points Maximum)

- The funding request contains questionable items (0-3 points)
- The funding request seems reasonable with few questionable items (4-6 points)
- The funding request seems reasonable with no problem areas (7-10)

I. Scope

Is this project the first part of a future, larger project?

☐ YES (If "YES", explain.) ☒ NO, it is a stand-alone project.

Explanation:

Is this project a continuation of a previously begun project?

☐ YES (If "YES", explain.)

Explanation:

J. Source of Funds

On a fiscal year basis, how much of the total project cost (\$ amount and %) would be absorbed by your agency from non-Pooled Technology and/or IOWAccess funds? If desired, provide additional comment / response below.

Response:

All future maintenance costs and updates and labor to implement this project would be absorbed by the

facilities.

[This section to be scored by application evaluator.]

Evaluation (5 Points Maximum)

- 0% (0 points)
- 1%-12% (1 point)
- 13%-25% (2 points)
- 25%-38% (3 points)
- 39%-50% (4 points)
- Over 50% (5 points)

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Section II: Financial Analysis

A. Project Budget Table

It is necessary to estimate and assign a useful life figure to each cost identified in the project budget. Useful life is the amount of time that project related equipment, products, or services are utilized before they are updated or replaced. In general, the useful life of hardware is three (3) years and the useful life of software is four (4) years. Depending upon the nature of the expense, the useful life for other project costs will vary between one (1) and four (4) years. On an exception basis, the useful life of individual project elements or the project as a whole may exceed four (4) years. Additionally, the ROI calculation must include all new annual ongoing costs that are project related.

The Total Annual Prorated Cost (State Share) will be calculated based on the following equation:

$$\left[\left(\frac{\text{Budget Amount}}{\text{Useful Life}} \right) \times \% \text{ State Share} \right] + (\text{Annual Ongoing Cost} \times \% \text{ State Share}) = \text{Annual Prorated Cost}$$

Budget Line Items	Budget Amount (1st Year Cost)	Useful Life (Years)	% State Share	Annual Ongoing Cost (After 1st Year)	% State Share	Annual Prorated Cost
Agency Staff	\$0	1	0.00%	\$0	0.00%	\$0
Software	\$0	4	0.00%	\$0	0.00%	\$0
Hardware	\$936,980	3	100.00%	\$0	0.00%	\$312,327
Training	\$0	4	0.00%	\$0	0.00%	\$0
Facilities	\$0	1	0.00%	\$0	0.00%	\$0
Professional Services	\$0	4	0.00%	\$0	0.00%	\$0
ITD Services	\$0	4	0.00%	\$0	0.00%	\$0
Supplies, Maint, etc.	\$0	1	0.00%	\$0	0.00%	\$0
Other	\$0	1	0.00%	\$0	0.00%	\$0
Totals	\$936,980	---	---	\$0	---	\$312,327

C. Tangible and/or Intangible Benefits

Respond to the following and transfer data to the ROI Financial Worksheet as necessary:

1. Annual Pre-Project Cost - This section should be completed only if state government operations costs are expected to be reduced as a result of project implementation. **Quantify actual state government direct and indirect costs** (personnel, support, equipment, etc.) associated with the activity, system or process prior to project implementation.

Describe Annual Pre-Project Cost:

N/A

Quantify Annual Pre-Project Cost:

	State Total
FTE Cost (salary plus benefits):	\$0.00
Support Cost (i.e. office supplies, telephone, pagers, travel, etc.):	\$0.00
Other Cost (expense items other than FTEs & support costs, i.e. indirect costs if applicable, etc.):	\$0.00
Total Annual Pre-Project Cost:	\$0.00

2. Annual Post-Project Cost - This section should be completed only if state government operations costs are expected to be reduced as a result of project implementation. **Quantify actual state government direct and indirect costs** (personnel, support, equipment, etc.) associated with the activity, system or process after project implementation.

Describe Annual Post-Project Cost:

N/A

Quantify Annual Post-Project Cost:

	State Total
FTE Cost (salary plus benefits):	\$0.00
Support Cost (i.e. office supplies, telephone, pagers, travel, etc.):	\$0.00
Other Cost (expense items other than FTEs & support costs, i.e. indirect costs if applicable, etc.):	\$0.00
Total Annual Post-Project Cost:	\$0.00

3. Citizen Benefit - Quantify the estimated annual value of the project to Iowa citizens. This includes the "hard cost" value of avoiding expenses ("hidden taxes") related to conducting business with State government. These expenses may be of a personal or business nature. They could be related to transportation, the time expended on or waiting for the manual processing of governmental paperwork such as licenses or applications, taking time off work, mailing, or other similar expenses. As a "rule of thumb," use a value of \$10 per hour for citizen time.

Describe savings justification:

Transaction Savings

Number of annual online transactions:	0
Hours saved/transaction:	0
Number of Citizens affected:	0
Value of Citizen Hour	0
Total Transaction Savings:	\$0

Other Savings (Describe)

\$0

Total Savings:

\$0

4. Opportunity Value/Risk or Loss avoidance - Quantify the estimated annual non-operations benefit to State government. This could include such items as qualifying for additional matching funds, avoiding the loss of matching funds, avoiding program penalties/sanctions or interest charges, avoiding risks to health/security/safety, avoiding the consequences of not complying with State or Federal laws, providing enhanced services, avoiding the consequences of not complying with enterprise technology standards, etc.

Response:

Using technology is to create a paper free environment. When the network is down it the use of email and access to necessary medical records in a timely fashion. Email has become a valuable communication tool both internally and externally. When e-mail communication is down our external cutomers have no way of knowing that we are not receiving their e-mail. Also not being able to retrieve client information opens the door to risk. The risk could cause the facilities to be noncompliant with a federal or state survey which puts us in jeopordy to lose our Title 19 or other federal monies.

5. Benefits Not Readily Quantifiable - List and summarize the overall non-quantifiable benefits (i.e., IT innovation, unique system application, utilization of new technology, hidden taxes, improving the quality of life, reducing the government hassle factor, meeting a strategic goal, etc.).

Response:

Provide 1 Gigabit between switches and 100 Megabits to the desktop. * Reducing risk by having a medical record available using campus area networks. This allows staff at any location the pertinent information to make informed quality of life decisions for the citizens we serve.* Keeping communication lines available over the campus area networks. If the network is down a valuable communication tool is not available. * Following the Governors direction E by 2003 we have become a more paper free environment. The majority of our information is stored on the network and if the network fails due to end of life equipment we face a potential health and safety risk.* The lifespan of technology hardware is normally three years. Our equipment is over 6 yrs. old and is putting us at risk of potential lengthy downtime due to obsolescence. This also increases our risk in that the cost of the replacement will be significantly higher.* Network downtime normally calculates in overtime. Staff will have to complete duties manually or will have to recreate documents that are stored on a server. * A secure network is vital for the confidential information that is stored. * A viable network will allow us to continue to use technology to it fullest. This has proven to be a benenfit to the citizens we serve. * Compliance with HIPAA regulations.

ROI Financial Worksheet	
A. Total Annual Pre-Project cost (State Share from Section II C1):	\$0
B. Total Annual Post-Project cost (State Share from Section II C2):	\$0
State Government Benefit (= A-B):	\$0
Annual Benefit Summary:	\$0
State Government Benefit:	\$0
Citizen Benefit:	\$0
Opportunity Value or Risk/Loss Avoidance Benefit:	\$0
C. Total Annual Project Benefit:	\$0
D. Annual Prorated Cost (From Budget Table):	\$312,327
Benefit / Cost Ratio: (C/D) =	0.00
Return On Investment (ROI): ((C-D) / Requested Project Funds) * 100 =	0.00%

[This section to be scored by application evaluator.]

Evaluation (25 Points Maximum)

- The financial analysis contains several questionable entries and provides minimal financial benefit to citizens (0-8 points).
- The financial analysis seems reasonable with few questionable entries and provides a moderate financial benefit to citizens (9-16 points).
- The financial analysis seems reasonable with no problem areas and provides maximum financial benefit to citizens (17-25).



Note: For projects where no State Government Benefit, Citizen Benefit, or Opportunity Value or Risk/Loss Avoidance Benefit is created due to the nature of the project, the Benefit/Cost Ratio and Return on Investment values are set to Zero.

Appendix A. Auditable Outcome Measures

For each of the following categories, list the auditable metrics for success after implementation and identify how they will be measured.

1. Improved customer service

Will see improved speeds on network. This will eliminate lock ups. The speed of the network would improve from 10 MB to 100 MB between desktops and 1000 MB between switches.

2. Citizen impact

Network will be more stable with less downtime.

3. Cost Savings

During the FY02 the total costs to the institutions was \$120,299.00 for CISCO maintenance. I did not have this years total amount for maintenance savings.

4. Project reengineering

5. Source of funds (Budget %)

6. Tangible/Intangible benefits

Number of computer help desk calls will decrease and downtime will decrease.

[Return](#)